TARASEVICH, L. M.

USSR/Medicine - Silkworms Aug 1946
Medicine - Nucleins

"Nucleic Acids of the Polyhedrons of the Mulberry Silkworm," L. M. Tarasevich, Chair of Biology of Medical Institute, Ministry of Health of RSFSR, Moscow, 4 pp

"Mikrobiologiya" Vol XV, No 4

Polyhedrons contain Desoxyribonucleic acid as confirmed by their positive response to every known test for this substance. Also contain pentose, which is demonstrated by the positive Beal test. Do not contain any uronic acids, which is confirmed by the characteristic naphthoresorcin test, nor any free carbohydrate.

40T45

LC

TARASEVICH, L. M.

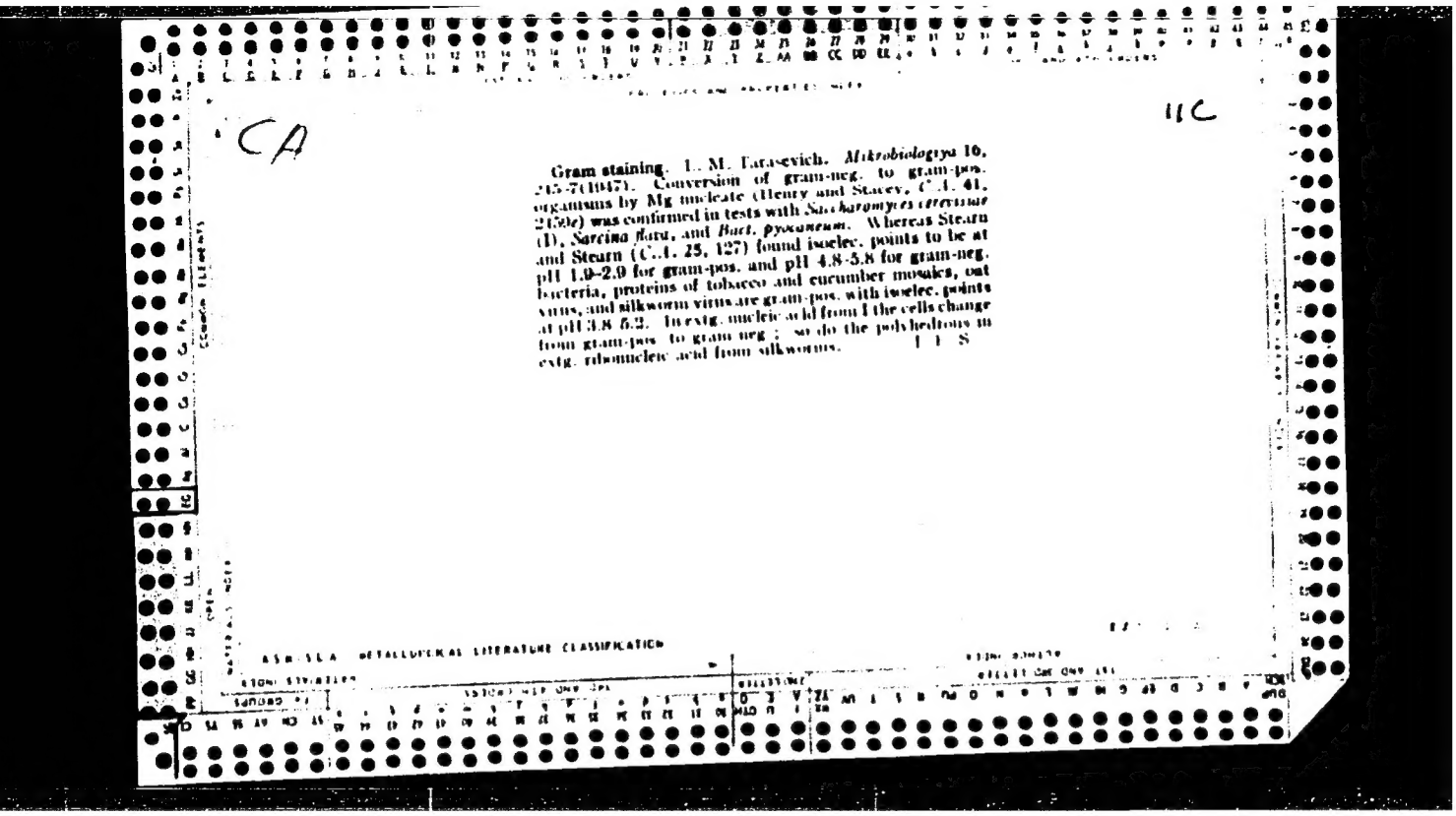
USSR/Medicine - Stains and Staining Mar 1947
Medicine - Fungi

"New Data on Staining by Gram's Method," L. M. Tarasevich, Chair of Biology of the Medical Institute, Moscow, 3 pp

"Mikrobiologiya" Vol XVI, No 3

Study of Saccharomyces cerevisiae during the extraction of neucleinic acid from yeasts, and of the virus proteins.

16T26

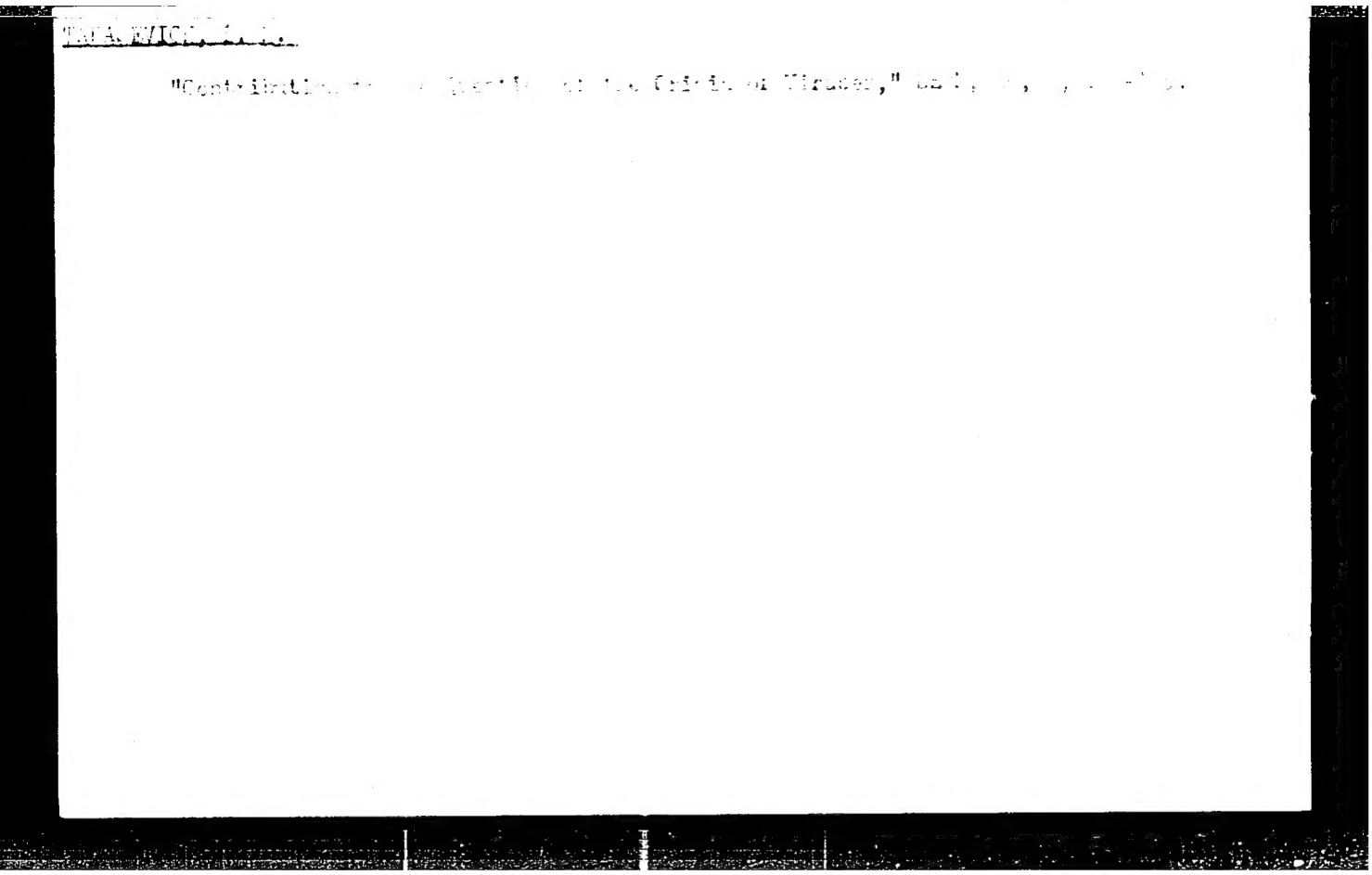


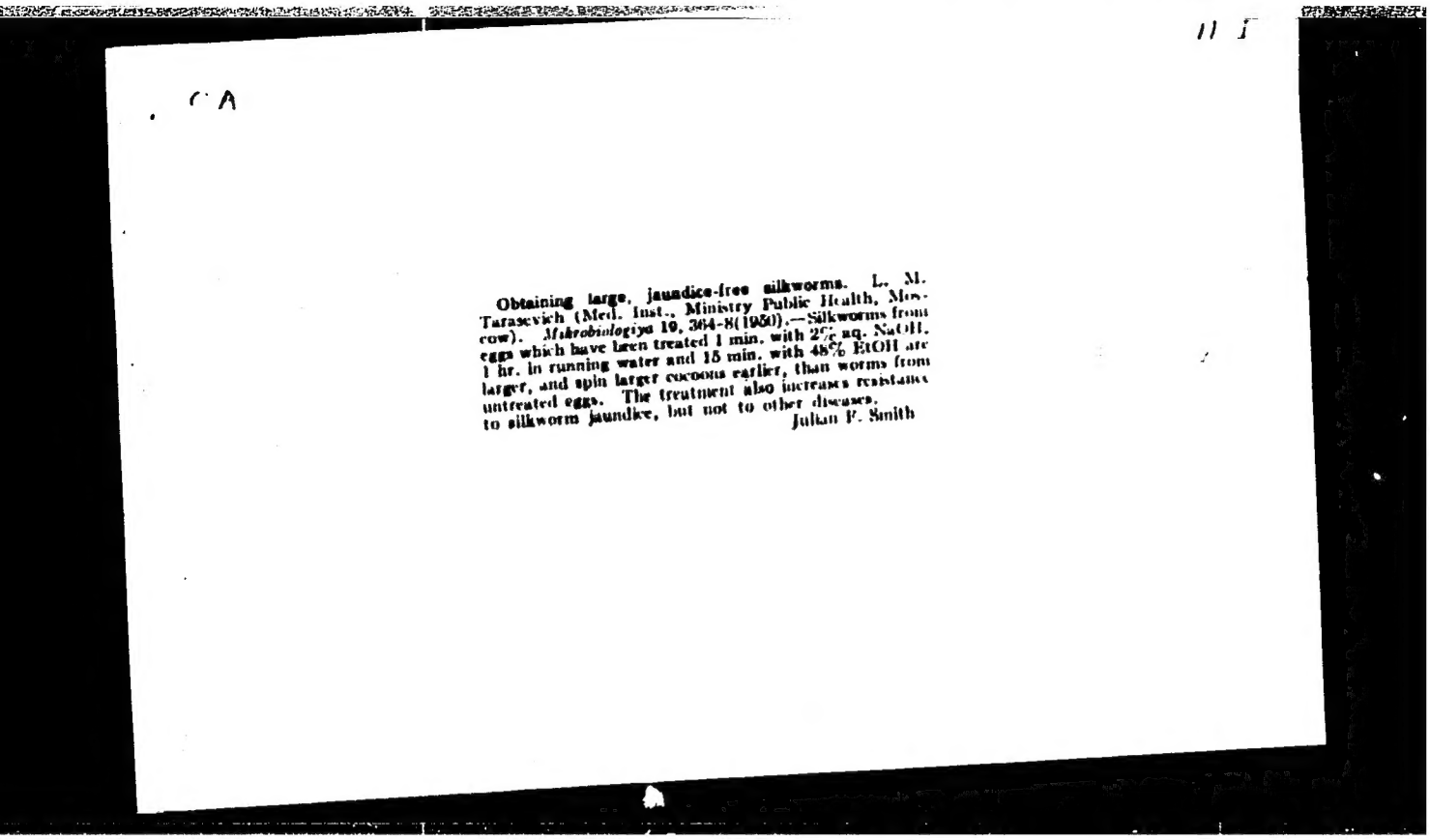
CA

11C

Gram staining. L. M. Tarasevich. *Mikrobiologiya* 16, 245-7(1947). Conversion of gram-neg. to gram-pos. organisms by Mg nucleate (Henry and Stacey, *C.A.* 41, 2150e) was confirmed in tests with *Saccharomyces cerevisiae* (I), *Sarcina flava*, and *Bact. pyocyaneum*. Whereas Stearn and Stearn (*C.A.* 25, 127) found isoelec. points to be at pH 1.9–2.9 for gram-pos. and pH 4.8–5.8 for gram-neg. bacteria, proteins of tobacco and cucumber mosaics, oat virus, and silkworm virus are gram-pos. with isoelec. points at pH 5.8–6.2. In exig. nucleic acid from I the cells change from gram-pos. to gram-neg.; so do the polyhedrons in exig. ribonucleic acid from silkworms. I. I. S.

ASM-SEA METALLURGICAL LITERATURE CLASSIFICATION





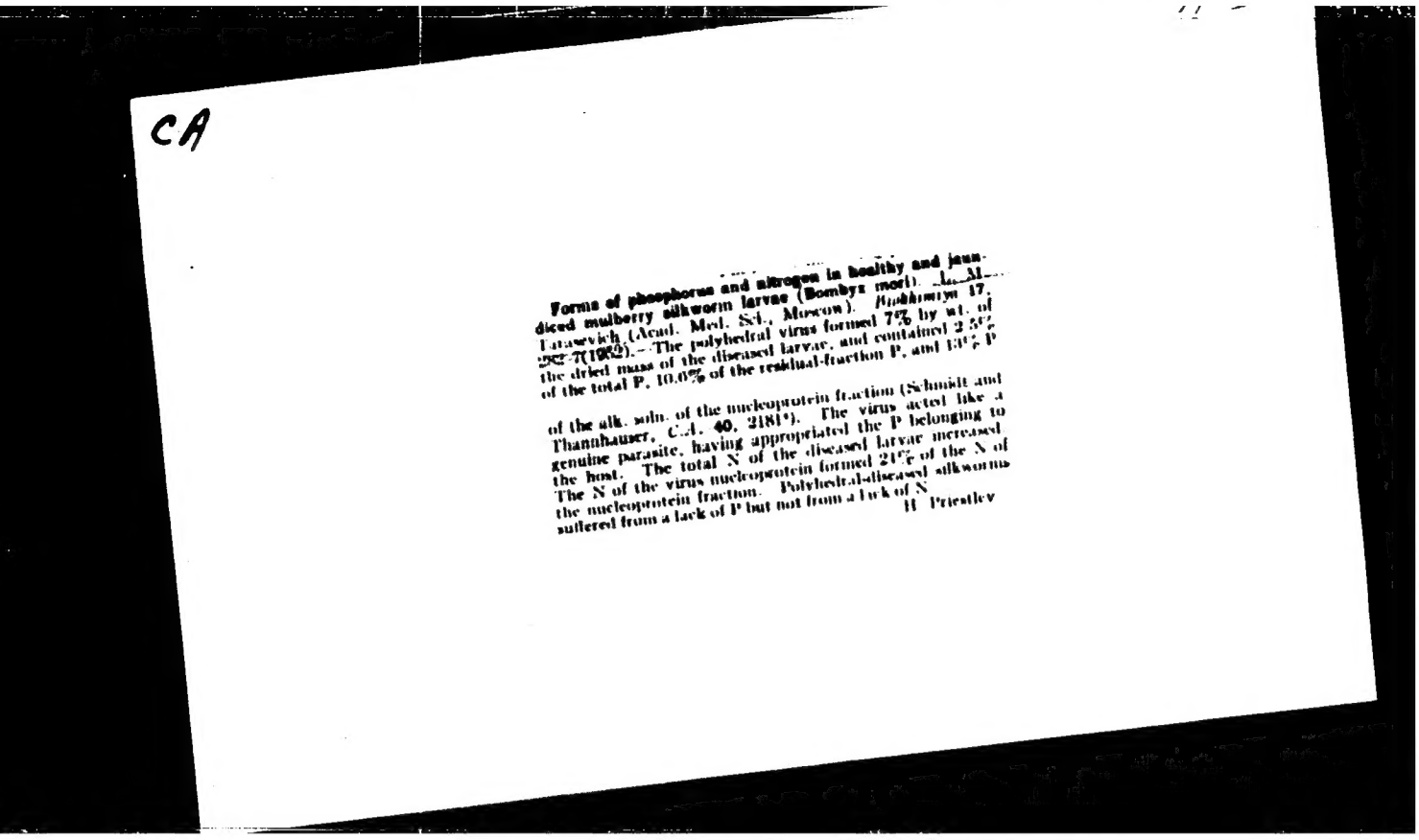
CA

Obtaining large, jaundice-free silkworms. L. M. Tarasevich (Med. Inst., Ministry Public Health, Moscow). *Mikrobiologiya* 19, 304-8(1950).—Silkworms from eggs which have been treated 1 min. with 2% aq. NaOH, 1 hr. in running water and 15 min. with 48% EtOH are larger, and spin larger cocoons earlier, than worms from untreated eggs. The treatment also increases resistance to silkworm jaundice, but not to other diseases.
Julian P. Smith

CA

11 Â

Action of strong solutions of sodium nucleinate on mosaic virus and on albumin. V. L. Ryzhkov, L. M. Tarasevich, and G. I. Loldina. *Doklady Akad. Nauk S.S.S.R.* 74, 1023–4(1950).—Strong (2.5–20%) solns. of Na nucleinate cause pptn. of the active principle of tobacco mosaic virus; activity is restored on soln. of the ppt. However, egg albumin pptd. similarly is rendered irreversibly insol. The pptn. appears to be a salting out phenomenon and no compd. formation is detected. G. M. K.



CA

Forms of phosphorus and nitrogen in healthy and jaundiced mulberry silkworm larvae (Bombyx mori). L. M. Lutsevich (Acad. Med. Sci., Moscow). *Biokhimiya* 17, 292-7(1952).—The polyhedral virus formed 7% by wt. of the dried mass of the diseased larvae, and contained 2.5% of the total P, 10.0% of the residual-fraction P, and 13% P of the alk. soln. of the nucleoprotein fraction (Schmidt and Thannhauser, *C.A.* **40**, 2181^{9}). The virus acted like a genuine parasite, having appropriated the P belonging to the host. The total N of the diseased larvae increased. The N of the virus nucleoprotein formed 21% of the N of the nucleoprotein fraction. Polyhedral-diseased silkworms suffered from a lack of P but not from a lack of N.

H. Priestley

TARASEVICH, L.M.

Yellows and metabolism of mulber. silkworms. Doklady Vsesoyuz. Akad. Sel'skokhoz. Nauk im. V.I.Lenina 18, No.4, 35-41 '53. (MLRA 6:4)
(CA 47 no.22:12664 '53)

TARASEVICH, L.M.

Obtaining silkworms with immunity to yellow jaundice virus. Mikrobiologiya 22, 311-15 '53. (MLRA 6:5)
(CA 47 no.22:12666 '53)

1. Ivanov Inst. Virusology, Acad. Med. Sci. U.S.S.R., Moscow.

TARASEVICH, L. M.

USSR/Biology - Plant pathology

Card 1/1 Pub. 22 - 40/47

Authors : Ryzhkov, V. L.; Kabachnik, M. I., Memb. Corresp. of Acad. of Sc. USSR; Tarasevich, L. M.; Medved', T. Ya.; Zeytlenok, N. A.; Marchenko, N. K.; Vagzhanova, V. A.; Ulanova, E. F.; and Cheburkina, N. V.

Title : Biological activity of alpha-aminophosphinic acids

Periodical : Dok. AN SSSR 98/5, 849-852, Oct 11, 1954

Abstract : The biological activity of alpha-aminophosphinic acids (toxic when in large concentrations), is discussed. The biological activity of these acids is best expressed in the inhibition of virus multiplication in the mosaic disease of tobacco. The effect of these acids and glycol on the titer of influenza virus in growing chicken embryos was investigated and the results are described. Eleven references: 7-USSR; 2-USA; 1-French and 1-German (1930-1953). Tables.

Institution : Acad. of Sc. USSR, Institute of Elementary-Organic Compounds and the Academy of Medical Sciences USSR, The D. I. Ivanov Institute of Virusology

Submitted : July 7, 1954

FIELDS, P., ed.; HEMINGWAY, V., ed.; TARASEVICH, L.M.[translator]; TEREKHOVA, N.A. [translator]; RYZHKOV, V.L., redaktor; ENDEN, M.G., redaktor; GERASIMOVA, Ye.S., tekhnicheskiy redaktor

[The nature of virus multiplication. Translated from the English] Priroda razmnozheniia virusov. Sost. gruppoi avtorov. Perevod s angliiskogo L.M.Tarasevich i N.A.Terekhovoi. Pod red. is predisl. V.L.Ryzhkova. Moskva, Izd-vo inostrannoi lit-ry, 1956. 390 p. (MLRA 9:7)

1. Chlen-korrespondent AN SSSR (for Ryzhkov)
(VIRUSES)

Q

USSR/Farm Animals. Silkworm.

Abs Jour: Ref Zhur-Biol., No 17, 1958, 78875.

Author : Tarasevich, L. M.; Ulanova, Ye. F.
Inst :
Title : Antivirus Treatment of Silkworm Eggs of the Bombyx.

Orig Pub: Vestn. s.-kh. nauki, 1957, No 7, 129-132.

Abstract: The test in actual conditions of the method proposed by the authors of an anti-icteric disinfection of silkworm eggs of the bombyx (1-2 minutes with a 2% solution of NaOH, then 1 hour of washing with water and 15 minutes with a 0.01% solution of $KMnO_4$) showed that such disinfection, used in spring or autumn (simultaneously with autumn washing), does not effect the animation of the silkworm eggs and leads to a significant decrease of caterpillar

Card : 1/2

78

USSR/Farm Animals. Silkworm. Q

Abs Jour: Ref Zhur-Biol., No 17, 1958, 78875.

disease icterus and muscardine. From test fattening in the kolkhoz, a harvest of cocoons was obtained 15% higher than from the control. -- S. M. Gershenzon.

Card : 2/2

TARASEVICH, L.M., ULANOVA, Ye.F.

Effect of some vitamins and antivitamins on the hemolymph of healthy silkworm caterpillars and caterpillars effected with yellows. [with summary in English] Izv. AN SSSR.Ser.biol. no.3:352-360 My-Je '58 (MIRA 11:6)

1. Institut mikrobiologii Akademii nauk SSSR, Moskva.
(SILKWORMS--DISEASES AND PESTS)
(VITAMINS)
(ANTIVITAMINS)

TARASEVICH, L.M.

Physiological conditions for the multiplication of polyhedral disease virus [with summary in English]. Vop.virus 3 no.6: 362-366 N-D '58. (MIRA 12:1)

1. Institut virusologii imeni D.I. Ivanovskogo AMN SSSR i Institut mikrobiologii AN SSSR, Moskva.
(VIRUSES,
polyhedral dis. virus, multiplication (Rus)

TARASEVICH, L. M.: Doc Biol Sci (diss) -- "The physiological conditions of multiplication of the virus of polyhedral disease of silkworms". Moscow, 1959. 32 pp (Inst of Microbiology of the Acad Sci USSR), 150 copies (KL, No 10, 1959, 123)

KOSYAKOV, P.N., red.; RYZHKOV, V.L., red.; TARASEVICH, L.M., red.; ROVNOVA, Z.I., red.; BUL'DYAYEV, N.A., tekhn.red.

[Physiology and biochemistry of viruses] Fiziologiia i biokhimiia virusov. Pod red. P.N.Kosiakova, V.L.Ryzhkova i L.M. Tarasevich. Moskva, Gos.izd-vo med.lit-ry, 1959. 184 p. (MIRA 13:7)

1. Akademiya meditsinskikh nauk SSSR, Moscow. Institut virusologii.

(VIRUSES)

TARASEVICH, L.M.; ULANOVA, Ye.F.

Mechanism of resistance of polyhedra. Vop. virus. 5 no. 6:715-720 N-D '60. (MIRA 14:4)

1. Institut mikrobiologii AN SSSR, Moskva.
(VIRUSES)

TARASEVICH, L.M.

Effect of the folic acid and several of its inhibitors on the development of Bombyx mori L. Cas entom 57 no.3:213-218 '60.
(EEAI 10:1)

1. Institut mikrobiologii AN SSSR, Moscow, U.S.S.R.
(Folic acid) (Silkworms)

TARASEVICH, L.M.; ULANOVA, Ye.F.

Possible conversion of ribonucleic acid into desoxyribonucleic acid during the multiplication of the silkworm grasserie virus. TSitologiia 3 no.3:334-340 My-Je '61. (MIRA 14:6)

1. Otdel virusov Instituta mikrobiologii AN SSSR, Moskva.
(NUCLEIC ACIDS) (VIRUSES)
(SILKWORMS--DISEASES AND PESTS)

TARASEVICH, L.M., ULANOVA, E.F., TERESHCHENKO, N.S.

"Mecanisme de la stabilite des plydres."

Report submitted to the 2nd Intl. Colloq. on Insect pathology and Microbiological Control, Paris, France 16-24 Oct 1962

TARASEVICH, L.M.; TERESHCHENKO, N.S.

Masked sulfhydryl groups in polyhedra of various origin. Vop. virus. 7 no.2:228-233 Mr-Ap '62. (MIRA 15:5)

1. Otdel virusov, Instituta mikrobiologii AN SSSR, Moskva.
(VIRUSES) (MERCAPTO GROUP)

TARASEVICH, L.M.

Sulfhydryl groups of viruses. Vop. virus 8 no.2:135-141 Mr-Ap '63 (MIRA 16:12)

1. Institut mikrobiologii AN SSSR.

TARASEVICH, L. M.; ULANOVA, Ye. F.; SHVELCHIKOVA, N. G.

"O roli rnk poliedrov, soderzhashchikh dnk-virus."

report presented at Symp on Virus Diseases, Moscow, 6-9 Oct 64.

Institut mikrobiologii AN SSSR, Moskva.

ACC NR: AP6020693 SOURCE CODE: UR/0016/66/000/006/0143/0145

AUTHOR: Taranevich, I. V.

ORG: Institute of Epidemiology and Microbiology, Academy of Medical Sciences, SSSR (Institut epidemiologii i mikrobiologii im. Gamalei, AMN SSSR)

TITLE: Identifying R. tsutsugamushi

SOURCE: Zh mikrobiol, epidemiol i immunobiol, no. 6, 1966, 143-145

TOPIC TAGS: rickettsial disease, rickettsia tsutsugamushi, microbiology, clinical medicine, ~~[illegible]~~ immunology, disease diagnosis, MORPHOLOGY, ANTIGEN

ABSTRACT:
R. tsutsugamushi differs from other *Rickettsia* in a variety of morphological and staining properties. Individual rickettsia are pleomorphic and stain blue by the Zdrovskiy method. Antigenic properties vary. A system for identifying *Rickettsiae* includes identification of: 1) morphological characteristics 2) characteristics of organisms in tissue cultures; 3) characteristics of

Card 1/2 UDC: 576.851.71.07 (049.3)

infections produced by *Rickettsiae* ; and 4) immunizing characteristics by cross-matching techniques. These steps are followed by 5) serological analysis of the antigenic structure of isolated rickettsial strains. Differentiating strains of *R. tsutsugamushi* by this method has not been too successful. One sign that *R. tsutsugamushi* is the infecting agent is the presence of OX_K' antibodies in the sera of infected animals. By 1963, 3 serotypes of *R. tsutsugamushi* had been identified in Japan. Finer identification of strains is accomplished when: 1) the morphological characteristics are determined; 2) a generalized infection is produced in mice showing profuse growths of *Rickettsia* in peritoneal fluid; 3) weak growth in chick embryo tissue culture occurs; 4) complement-fixing antibodies to Gilliam, Kato, or Karp serotypes exist; and 5) immunity appears in mice immunized subcutaneously to a lethal dose of the suspected strain.

[W.A. 50; CBE No. 10]

SUB CODE: 06/ SUBM DATE: 10Jul65/ ORIG REF: 003/ OTH REF: 017/

TARASEVICH, I.V.;SOMOV, G.P.

Comparative serological study of tick-borne rickettsiosis of North Asia and tsutsumushi fever. Zhur. mikrobiol. epid. i immun. 43 no. 1:83-87 Ja '66 (MIRA 19:1)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR. Submitted September 22, 1964.

ACC NR: AP6024437 SOURCE CODE: UR/0016/66/000/007/0036/0038

AUTHOR: Mirolyubova, L. V.; Kudryashova, N. I.; Tarasevich, I. V.

ORG: Institute of Epidemiology and Microbiology im. Gamaleya, AMN SSSR, Moscow (Institut epidemiologii i mikrobiologii AMN SSSR)

TITLE: The use of the fluorescent-serological method for determination of natural tsutsugamushi fever infection of mites (Trombicula)

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 7, 1966, 36-38

TOPIC TAGS: infective disease, animal disease, Rickettsial disease, antibody, tsutsugamushi fever, serology, animal parasite

ABSTRACT:
An indirect fluorescent-serological method was used to determine natural infection of trombiculid mites with *Rickettsia tsutsugamushi*. Smears were prepared on slides by squeezing the contents of the mite into a drop of distilled water and then transferring a proportion of this suspension to the second slide with a pipette. One of the smears served as a control. The chitinous shells of the mites were preserved for subsequent determination of species. Serum obtained from immunization of rabbits using a *R. tsutsugamushi*

Card 1/2 UDC: 576.895.42.095.38:576.851.71].074.537.533.35

Card 2/2

ACC NR: AP6024448 SOURCE CODE: UR/0016/66/000/007/0130/0132

AUTHOR: Dyuysaliyeva, R. G.; Tarasevich, I. V.

ORG: Institute of Epidemiology and Microbiology im. Gamaleya, AMN SSSR, Moscow (Institut epidemiologii i mikrobiologii AMN SSSR)

TITLE: Growing R. Tsutsugamushi in tissue culture

SOURCE: Zhurnal mikrobiologii, epidemiologii, i immunobiologii, no. 7, 1966, 130-132

TOPIC TAGS: infective disease, tsutsugamushi fever, tissue culture, mouse

ABSTRACT:
Methods which had been used successfully abroad in the cultivation of *R. Tsutsugamushi* were used by the authors to determine the following properties of *R. Tsutsugamushi* strains isolated in the Soviet Union: morphology, growth and reproduction dynamics, the possibility of passaging on tissue cultures, and the preservation of virulence after passaging on tissue cultures and under different storage conditions. Transplanted strain L cells and trypsinized chick fibroblast cells were used in no. 199 medium with 10%

Card 1/2 UDC: 576.851.71.093.35

ACC NR: AP6024448

bovine serum added. These cultures were infected with the standard Gillian strain of *R. Tsutsugamushi*, and the B15 and B58 strains, isolated in the Southern Maritime Territory (Yuzhnoye Primor'ye). The material used to infect the tissue cultures were suspensions of chick-embryo yolk sac containing Rickettsia, peritoneal exudate, and spleen and liver cells from infected mice. Control and infected cultures were regularly examined with low-power microscopy and the presence of Rickettsia was recorded. The study showed that the strains of *R. Tsutsugamushi* investigated reproduce well in transplanted L cells and trypsinized chick-embryo fibroblasts. Rickettsia appeared in the infected cultures on the third day, and reached maximum quantity on the seventh to ninth days. A culture of *R. Tsutsugamushi* could be maintained through five passages in L cells, and strain B15 maintained its pathogenicity for mice through four passages. Also, it was found that the presence of *R. Tsutsugamushi* in frozen and dried substances may be detected accurately by infection of tissue cultures. [WA-50; CBE No. 11]

SUB CODE: 06/ SUBM DATE: 10Jul65/ ORIG REF: 007/ OTH REF: 008/

Card 2/2

TARASEVICH, M. N.

Dolphins

Structure of shoals of dophin ("Belobochka") according to age and sex. Trudy Gidrobiol. obshch. 3, 1951.

9. Monthly List of Russian Accessions, Library of Congress, November 1952, Uncl.

TARASEVICH, M. N.

TARASEVICH, M. N.: "The biological and industrial characteristics of accumulations of delphinus (Delphinus delphis ponticus Barabasch.)." Moscow City Pedagogical Inst imeni V. P. Potemkin. (Dissertation for the Degree of Candidate in Biological Sciences).

SO: Knizhnaya Letopis', No 23, 1956

TARASEVICH, M.N.

Comparing the herd composition in aquatic and terrestrial mammals. Trudy VNIRO 33:199-218 '58. (MIRA 14:6)
(Animals, Habits and behavior of)

TARASEVICH, M.N.; BULK,B.F.; MUDROVA,P.L.

A method of conservation of pathogenic Leptospira organisms while preserving their virulence. J. hyg. epidem. 7 no.3: 352-359 '63.

1. I.I.Mechnikov Institute of Sera and Vaccines, Moscow.

*

TARASEVICH, M.N.

Materials on the feeding habits of sperm whales in the northern part of Kurile waters (Paramushir and Onekotan-Shiashkotan regions). Trudy Inst. okean. 71:195-206 '63. (MIRA 16:11)

TARASEVICH, M.N.

Biology of the bearded seal (Erignathus barbatus). Trudy Inst. okean. 71:223-225 '63. (MIRA 16:11)

KLEYNENBERG Sergey Yevgen'yevich; YABLOKOV, Aleksey Vladimirovich; BEL'KOVICH, Vsevolod Mikhaylovic ; TARASEVICH, Mariya Nikolayevna; Prinimali uchastiye: DELYAMURE, S.L.; ZHEMKOVA, Z.P.; MAKAROV, B.M., red.

[Beluga; a monographic study on the species] Belukha; opyt monograficheskogo issledovaniia vida. [By] S.E.Kleinenberg i dr. Moskva, Izd-vo "Nauka," 1964. 455 p. (MIRA 17:4)

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S/539/61/000/032/005/017
D202/D301

5.4700

AUTHORS: Kudryavtsev, N.T., Bek, R.Ya. and Tarasevich, M.R.

TITLE: The effect of periodical reversal of current direction on the concentration polarization

SOURCE: Moscow. Khimiko-tekhnologicheskiy institut. Trudy, no. 32, 1961. Issledovaniya v oblasti elektrokhimii, 79-84

TEXT: The authors aimed at verification of the opinion of previous investigators that current reversal has a favorable effect on the speed of electrolysis and properties of the electro deposits. In the authors' opinion, current reversal, although it decreases polarization, causes periodically the dissolution of some part of the deposit; therefore, the total deposition rate is lowered. If the ratio of times of switch-on of cathodic and anodic current is $K = \frac{\tau_c}{\tau_a}$, then the rate of electrolysis would not be determined by the working current density D_w, but a value $D_{ef} = D_w \cdot \frac{k - 1}{k + 1}$, (effective current density). The authors compared the

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The effect of periodical ...

concentration polarization during electrolysis with direct current to that at electrolysis with reversing current, both processes having the same D_{ef}. They investigated these processes on silver nitrate solutions $AgNO_3$(0.05M) $NaNO_3$ (1 M) at pH = 1 and on equimolecular $K_3Fe(CN)_6$ and $K_4Fe(CN)$ solutions on an apparatus permitting 2 to 3000 rev.p.m. with a constant k ratio; the dependence of potential and current intensity was registered by a tape oscillograph. The effect of current reversals in $AgNO_3$ solutions has been studied at D_w = 0.5 a/dm^2, with k = 6.39 and 16.4 at 30° and 50°C. D_{ef} for k = 6.39 was 0.36 a/dm^2 and for k = 6.4 - 0.44 a/dm^2. During electrolysis with direct current = 0.5 a/dm^2 at 30°C a spongy deposit was formed, but with current density of 0.36 a/dm^2 the deposit was compact. At 50°C it was compact in both cases. When reversible current was applied (k - 6.39, temp. 30°C) a sponge was formed on the cathode when less than 10 rev.p.m. were used, but with higher reversal rates, a compact deposit was obtained; at 50°C such a deposit

The effect of periodical ...

was formed in both cases. The same phenomena were observed with k = 16.4. Similar results have been obtained with a mixture of ferrocyanide and ferricyanide ions. It is seen from the obtained oscillographs and corresponding graphs that with increasing reversal rate up to 60 per min., the concentration polarization is decreasing; further increase in alternation having but a very slight effect. At alternation rates up to 60 rev. per min. this polarization has a much larger value than when d.c. is applied, when its density is equal to D_{ef}; at an alternation rate higher than 60 rev./min. the value of concentration polarization approaches that obtained with d.c. In the author's opinion, this may be explained as follows: During the switch-on of anodic current, the ionic concentration on the cathode is increased by a partial dissolution of the metallic deposit and by ions diffusing from the bulk of solution; the polarization is lowered, the current density increases, and the loss of deposit is balanced by an increase in the speed of electrolysis. If the current reversal rate is low, after the concentration in the diffusion layer is restored, the ions would tend to diffuse into solution and the

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polarization would increase. Therefore, the rate of electrolysis may be increased by reversing current only when it alternates very rapidly. The authors conclude that from the point of view of reagent supply to the cathode current reversal cannot be regarded as a means for intensification of electrolytic processes. There are 5 figures and 11 references: 7 Soviet-bloc and 4 non-Soviet-bloc. The references to the English-language publications read as follows: G.W. Jernstedt, Steel, 120, no. 17, 100-102, 134, (1947); A. Hickling and H.P. Rothbaum, Trans. Inst. Metal Finish, 34, 53 (1957).

Card 4/4

KUDRYAVTSEV, N.T.; BEK, R.Yu.; TARASEVICH, M.R. (Moskva)

Effect of periodic reversal of current on concentration polarization. Zhur. fiz. khim. 35 no.7:1507-1511 Jl '61. (MIRA 14:7)

1. Khimko-tekhnologicheskiy institut im. D.I.Mendeleyeva.
(Electroplating) (Polarization (Electricity))

SHUMILOVA, N. A.; TARASEVICH, M. R.; ZHUTAYEVA, G. V.

"Oxygen ionization on silver in alkaline solutions."

report presented at 15th Mtg, Intl Comm of Electrochemical, Thermodynamics and Kinetics, London, 21-26 Sep 64.

ACCESSION NR: AP4010035 S/0062/64/000/001/0017/0026

AUTHOR: Tarasevich, M. R.; Shumilova, N. A.; Burshteyn, R. Kh.

TITLE: Studies on oxygen adsorption and ionization by the method of triangular voltage impulses Report 1. Adsorption and desorption of oxygen at the silver electrode in anode and cathode polarization

SOURCE: AN SSSR. Izvestiya. Ser. khim., no. 1, 1964, 17-26

TOPIC TAGS: oxygen adsorption, oxygen desorption, oxygen silver electrode reaction, triangular voltage pulses, electrode reactions, electrode potential curves, ionization, oxygen bond changes, Ag sub 2 O, AgO, Ag sub 2 O sub 3, oxygen silver reaction kinetics

ABSTRACT: In the determination of short-lived products of electrode reactions, it has been found that triangular or saw-toothed voltage pulses placed on the electrode will obtain i-φ curves which differ essentially by their outline from galvanostatic charge curves. To study the kinetics of oxygen and hydrogen adsorption and desorption and formation and destruction of oxides at the silver electrode,

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ACCESSION NR: AP4010035

single and periodic triangular voltage pulses were used in a 1N KOH solution, in the range of 0.05-2.0 V and a rate of change of the potential of 0.04 ÷ 300 V/sec. The equipment is described (teflon-insulated silver electrodes, inert atmosphere, curves photographed after they became stationary). A 1 V/sec potential change and a 0.05-1.1 V potential range led to curves attaining a maximum of 0.32 V at the cathode and 0.36 V at the anode, corresponding to adsorption and desorption of hydrogen. Reducing this amplitude to 0.05-0.5 V apparently led to reduction of priorily adsorbed oxygen. Oxygen was adsorbed at the 1.1 ÷ < 0.5 V range; at a 0.7 ÷ 0.8 V potential range and a rate of 0.1 V/sec a maximum was observed corresponding to a change in the oxygen bond with the silver. The form of the i-φ curves at low speed rates of the applied potential was determined to a considerable degree by chemoaccumulation of oxygen whose bond energy with the surface was relatively high, while desorption and adsorption proceeded with considerable overvoltage. In fact, the i-φ curves at a speed of 1 V/sec and 0.1 V/sec had considerable hysteresis. With increase of the rate of change of the potential from

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ACCESSION NR: AP4010735

10-100 V/sec the degree of filling of the silver surface with oxygen changed almost linearly with the potential in the range of its adsorption and desorption. The lesser the changes in the potential during electrode polarization with periodical pulses, the larger the number of places on the electrode surface freed from adsorbed oxygen during the cathode half-period. The formation and reduction of the oxides Ag_2O, NgO and Ag_2O_3 was determined by the same method. Formation of the phase oxide apparently follows accumulation on the electrode surface of a large amount of adsorbed oxygen. Upon retaining φ = 1.3 V, this adsorbed oxygen will then pass into the crystalline oxide stage and this will lead to a quasi stopping of adsorption. "In conclusion, we wish to express our deep gratitude to A. N. Frumkin for his constant attention to this work." Orig. art. has: 8 figures and 4 tables.

ASSOCIATION: none

SUBMITTED: 14Jun63	DATE ACQ: 14Feb64	ENCL: 00
SUB CODE: CH, PH	NO REF SOV: 012	OTHER: 007

Card 3/3

ALEKSEYEV, V.N.; KNOTS, L.L.; TARASEVICH, M.R.; SHUMILOVA, N.A. (Moscow)

Apparatus for investigating electrochemical systems by the triangular pulse method. Zhur. fiz. khim. 38 no.4:1048-1051 Ap '64. (MIRA 17:6)

1. Akademiya nauk SSSR, Institut elektrokhimii.

FRUMKIN, A.N.; KHRUSHCHEVA, Ye.I.; TARASEVICH, M.R.; SHTYLOVA, N.A.

Use of the rotating disk electrode with a ring in conjunction with the method of triangular voltage pulses for studying electrode reactions. Elektrokhimiia 1 no.1:17-19 Ja '65. (MIRA 18:5)

1. Institut elektrokhimii AN SSSR.

ALEKSEYEV, V.N.; ZHUTAYEVA, G.V.; KNOTS, I.L.; LEVINSKIY, B.I., [illegible]; M.P.; SHUMILOVA, N.A.

Method of trapezoidal voltage pulses. Elektrokhimiya 1 no.3:373-376 Mr '65. (MIRA 18:12)

1. Institut elektrokhimii AN SSSR.

KHRUSHCHEVA, Ye.I.; SHUMILOVA, N.A.; TARASEVICH, M.R.

Study of the process of molecular oxygen ionization on platinum by the method of superimposition of triangular voltage pulses on a disk electrode with a ring. Elektrokhimiia 1 no.6:730-734 Je '65. (MIRA 18:7)

1. Institut elektrokhimii AN SSSR.

SHUMILOVA, N.A.; ZHUTAYEVA, G.V.; TARASEVICH, M.R.; BURSHTEYN, F.Kh.

Oxygen adsorption on platinum studied by the method of triangular voltage pulse. Zhur. fiz. khim. 39 no.4:1012-1016 Ap '65. (MIRA 19:1)

1. Institut elektrokhimii AN SSSR. Submitted June 19, 1964.

ZHUTAYEVA, G.V.; SHUMILOVA, N.A.; TARASEVICH, M.R.

Ionization of oxygen on silver. Dokl. AN SSSR 161 no.1:151-153 Mr '65. (MIRA 18:3)

1. Institut elektrokhimii AN SSSR. Submitted August 10, 1964.

BUSHUYEV, R.Kh., doktor khim.nauk; TARASEVICH, M.R., kand.khim.nauk

Conference on fuel elements held in Brussels. Vest. AN SSSR 35 no.12:81 D '65. (MIRA 19:1)

L 12894-66 EWT(m)/ETC(F)/EWG(m)/EWP(v)/EWP(j)/T/EWP(t)/EWP(b) IJP(c) DS/JD/WW/JG/RM

ACC NR: AP5027584 (A) SOURCE CODE: UR/0364/65/001/011/1391/1394

AUTHOR: Tarasevich, M. R.; Radyushkina, K. A.; Burshteyn, R. Kh.

ORG: Institute of Electrochemistry, Academy of Sciences SSSR (Institut elektrokhimii Akademii nauk SSSR)

TITLE: Ionization of oxygen on disperse platinum catalysts in acid solutions

SOURCE: Elektrokhimiya, v. 1, no. 11, 1965, 1391-1394

TOPIC TAGS: oxygen, reduction, platinum, electrochemical analysis

ABSTRACT: Investigation of the electrochemical activity of platinum catalysts in mixture with and without carbon, using Tefleks as the binding material is described. 60 mm diameter porous plates with an active layer deposited on them were used. Electrochemical tests of the gas-diffusion electrodes were made in a teflon cell. The electrolytes were 5 N H_2SO_4 and 14.8 N H_3PO_4. The pressure drop between the gas and the electrolyte was about 0.5 atm. Electrochemical activity was evaluated from the current density produced at 0.7 v vs the hydrogen electrode. In 5 N H_2SO_4 at 70°C, a carbon electrode containing no platinum catalyst has an equilibrium potential of 0.72 v and exhibits electro-

UDC: 541.13

Card 1/2

ACC NR: AP5027584

3

chemical activity of the order of 0.3 ma/cm^2. Upon the introduction of Pt catalyst into the carbon by the reduction of H_2PtCl_6 with formaldehyde, the equilibrium electrode potential increases to 0.93 v. Increase of the temperature from 20 to 80°C at 0.7 v leads to an increase in current density from 10 to 70 ma/cm^2. At 100°C, however, the catalyst becomes poisoned by the reduction of sulfuric acid to H_2S. Even more active Pt catalyst electrodes were obtained by the reduction of H_2PtCl_6 with sodium borohydride. On this catalyst, however, the reduction of sulfuric acid begins above 50°C. The electrochemical activity of the above electrodes in 14.8 M H_3PO_4 in a broad temperature interval is shown. The authors express their gratitude for conducting x-ray structural analyses to Yu. M. Polukarov, Z. V. Semenova and Ye. A. Slesareva. Orig. art. has: 4 figures, 1 table.

SUB CODE: 07,11/ SUBM DATE: 11Apr65/ ORIG REF: 002/ OTH REF: 005

Card 2/2 HW

TARASEVICH, M.R.; SHUMILOVA, N.A.; BURSHTEYN, R.Kh.

Study of the adsorption and ionization of oxygen by the method of triangular voltage pulse. Report No.2: Ionization of molecular oxygen on silver in alkaline solution. Izv.AN SSSR. Ser.khim. no.1:32-37 '66. (MIRA 19:1)

1. Institut elektrokhimii AN SSSR. Submitted August 6, 1964.

L 36923-66 EWT(m)/T DS

ACC NR: AP6008499 (A) SOURCE CODE: UR/0062/66/000/001/0032/0037

AUTHOR: Tarasevich, M. R.; Shumilova, N. A.; Burshteyn, R. Kh.

ORG: Institute of Electrochemistry, Academy of Sciences, SSSR (Institut elektrokhimii Akademii nauk SSSR)

TITLE: Investigation of adsorption and ionization of oxygen by the triangular voltage pulse method. Communication 2. Ionization of molecular oxygen on silver in an alkaline solution

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 1, 1966, 32-37

TOPIC TAGS: oxygen, gas ionization, gas adsorption, electrolytic deposition, silver

ABSTRACT: In this investigation the authors study the ionization of molecular oxygen on a silver electrode in an alkaline solution. The anode and cathode branches of the polarization curves are measured by applying single or periodic triangular voltage pulses to a rotating silver electrode. A 8.2-mm-diameter electrode is used when the rates of change of the potential are up to 1 V/sec and 0.6 mm when the rate of increment of the potential is above 10 V/sec. The experiments are carried out in 1 N KOH at 25° and an oxygen pressure of 1 atm. The electrolytic oxygen used is subjected to additional purification by passage through activated

UDC: 541.183+541.13

Card 1/2

charcoal, a solution of permanganate, a furnace with palladium-coated asbestos, a solution of plumbite, calcium chloride, and a trap cooled to -100C. All potentials are reduced relative to a reversible hydrogen electrode in the same solution. The data obtained from the investigation are explained both on the assumption of the possibility of a parallel of currents of two- and four-electron processes of the ionization of oxygen and by the occurence of the reaction $O_2 \rightarrow O_{2ads} + H_2O + 2e \rightarrow OH^- + HO_2^-$ with subsequent ionization or catalytic decomposition of the hydrogen peroxide being formed. It is found that oxygen can be adsorbed on the surface of silver both in an atomic and in a molecular form and that the heat of chemisorption of oxygen on silver decreases with an increase of surface coverage. This indicates a change of character of the bond of the adsorbed oxygen with the silver. Thus, it is assumed that with small positive values of the potential to which small surface coverages and large heats of adsorption correspond, the oxygen is adsorbed as atoms which are later ionized with the formation of the ions OH^-. With larger positive values of the potential the oxygen is adsorbed in a molecular form with the subsequent occurence of the reaction. It is further found that in the region of potentials from 0.85 to 0.05 V there is a change in the number of electrons participating in the reaction, from 2 to about 4, and that strengthening of the bond of oxygen with the surface of silver leads to inhibition of the ionization of oxygen. The authors thank A. N. Frumkin for his interest in the work.
Orig. art. has: 2 formulas, 4 figures, and 1 table.

SUB CODE: 07/ SUBM DATE: 16Aug63/ ORIG REF: 013/ OTH REF: 004

L 38168-66 EWT(m)/T IJP(c) DS

ACC NR: AP6019241 (A) SOURCE CODE: UR/0364/66/002/003/0363/0367

AUTHOR: Nekrasov, L. N.; Khrushcheva, Ye. I.; Shumilova, N. A.; Tarasevich, M. R.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet); Institute of Electrochemistry, Academy of Sciences SSSR, Moscow (Institut elektrokhimii Akademii nauk SSSR)

TITLE: A study of the electrochemical reduction of oxygen on a rhodium electrode in alkaline solutions

SOURCE: Elektrokhimiya, v. 2, no. 3, 1966, 363-367

TOPIC TAGS: electrochemical analysis, chemical reduction, hydrogen peroxide, alkaline cell, ~~polarization~~, rhodium, electrode, ionization, oxygen, cathode polarization

ABSTRACT: Ionization of oxygen was studied on rotating disc electrodes of rhodium (99.7% Rh). The discs had a 1.48 mm radius and were mounted in sets of four on a platinized wheel having an outer radius of 2.88 mm and an inner radius of 1.76 mm. Polarization curves were obtained in 0.1 N KOH solutions with the wheel rotating at 500, 1680 and 4020 rpm. On the cathode side, the current rose gradually with potential φ until the oxygen was liberated at which point the slope decreased. With increases in rotation speed, the heights and slopes of the curves increased. The current on the wheel and the $\%H_2O_2$ yield are given as a function of disc potential for 500 and 1680 rpm. For increases in cathodic polarization of the discs, the current on the wheel

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UDC: 341.138.3:546.21

L 38168-66
ACC NR: AP6019241

rose, reached a maximum and finally decreased; the $\%H_2O_2$ fell linearly throughout the entire potential range of 0.8-0 v. Comparison with prior experiments on Pt and Pd electrodes showed that a two-stage process was involved. In Rh, a retardation process replaced ionization at φ = 0.4-0.1 v. Kinetic constants for the reduction of H_2O_2 were compared to those for the total 4-electrode process (K_{O_2}) at constant values of φ. Between φ = 0.1-0.4 v they compared well, but above 0.4 v K_{O_2} they were calculated from $1/K_{O_2} = 1/K_1 + 1/K_2$ where K_1 and K_2 = constants for the first and second stages of the total process. The constants increased in magnitude with the speed of rotation but the cause of this was unexplained. Other polarization curves were obtained to study the influence of the electrode surface condition - either reduced, activated in the reverse direction or oxidized. In all potential ranges the current was least in the oxidized electrode due to the increased quantity of H_2O_2 fixed on the wheel. In conclusion the authors expressed their deep gratitude to Academician A. N. Frumkin for assistance in discussing the results. Orig. art. has: 4 figures, 2 tables, 1 formula.

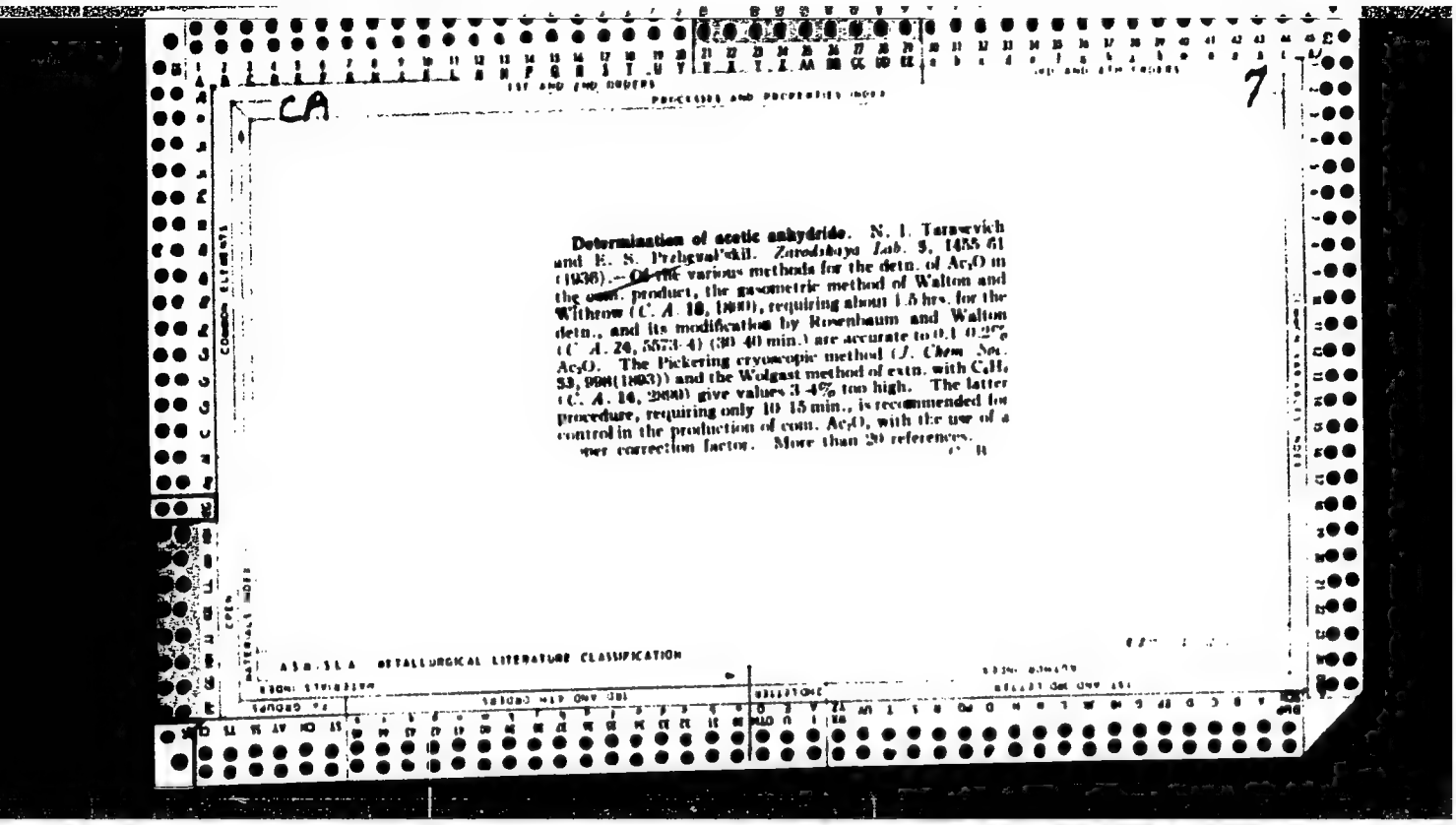
SUB CODE: 07/ SUBM DATE: 17Jun65/ ORIG REF: 005/ OTH REF: 000

Card 2/2 mcp

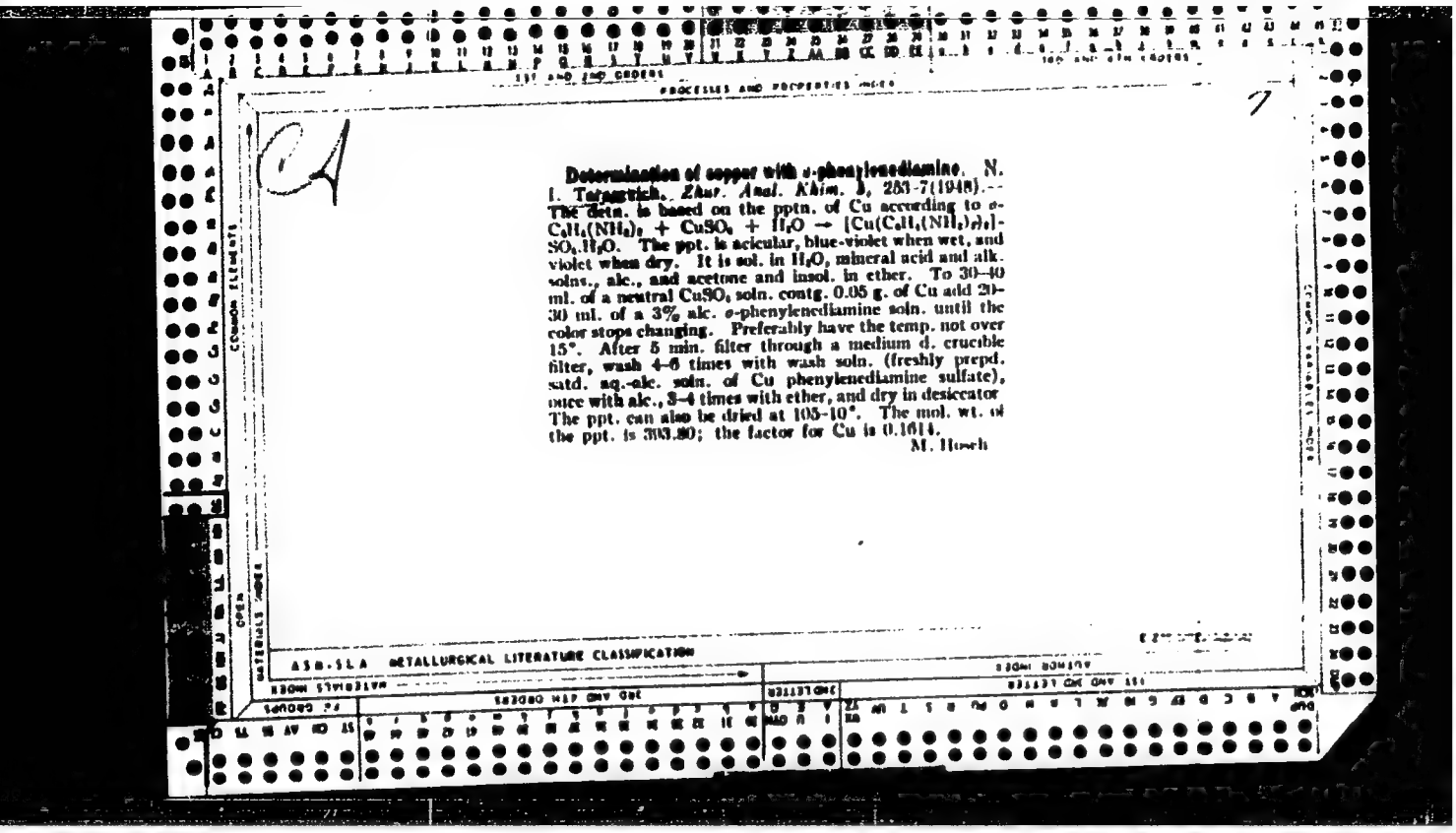
TARASEVICH, N.

Industrial building with a span of 24 m. and with a column network 24 X 12 m. Prom.stroi.i inzh.soor. 4 no.2:4-8 Mr-Ap '62. (MIRA 15:11)

1. Glavnyy inzhener tresta No.1 Kiyevskogo soveta narodnogo khozyaystva.
(Precast concrete construction) (Industrial buildings)



Determination of acetic anhydride. N. I. Tarasevich and E. S. Prilezhaev'skii. *Zavodskaya Lab.* 5, 1455-61 (1936).—Of the various methods for the detn. of Ac_2O in the com. product, the gasometric method of Walton and Withrow (*C. A.* **18**, 1980), requiring about 1.5 hrs. for the detn., and its modification by Rosenbaum and Walton (*C. A.* 24, 5573-4) (30-40 min.) are accurate to 0.1-0.2% Ac_2O. The Pickering cryoscopic method (*J. Chem. Soc.* 53, 998(1893)) and the Wolgast method of extn. with C_6H_6 (*C. A.* 14, 2980) give values 3-4% too high. The latter procedure, requiring only 10-15 min., is recommended for control in the production of com. Ac_2O, with the use of a correction factor. More than 20 references.



Determination of copper with *o*-phenylenediamine. N. I. Tarasevich. *Zhur. Anal. Khim.* 3, 283-7(1948).—The detn. is based on the pptn. of Cu according to $o\text{-}C_6H_4(NH_2)_2 + CuSO_4 + H_2O \rightarrow [Cu(C_6H_4(NH_2)_2)_2]SO_4.H_2O$. The ppt. is acicular, blue-violet when wet, and violet when dry. It is sol. in H_2O, mineral acid and alk. solns., alc., and acetone and insol. in ether. To 30–40 ml. of a neutral $CuSO_4$ soln. contg. 0.05 g. of Cu add 20–30 ml. of a 3% alc. *o*-phenylenediamine soln. until the color stops changing. Preferably have the temp. not over 15°. After 5 min. filter through a medium d. crucible filter, wash 4–6 times with wash soln. (freshly prepd. satd. aq.-alc. soln. of Cu phenylenediamine sulfate), once with alc., 3–4 times with ether, and dry in desiccator. The ppt. can also be dried at 105–10°. The mol. wt. of the ppt. is 393.80; the factor for Cu is 0.1614.

M. Hosch

CA

1

New rapid gravimetric determination of silver. Analytical properties of bromoaminidobenzene. N. I. Tarasevich (Moscow State Univ.). *Vestnik Moskov. Univ.* 3, No. 9), 161–6(1948).—Benzo-1,2,3-triazole and especially its 5-Br deriv. are useful analytical reagents. The Br deriv. ppts. Ag in 1:1 mol. proportions quantitatively in the form of $C_6H_3BrN_3Ag$, which is cryst. and stable to heat and light, difficultly sol. in H_2O, insol. in dil. NH_4OH, org. solvents, or dil. acids. The NH group of the triazole is specific for Ag, and microdetns. in the presence of Cu, Ni, Bi, Tl, Pb, and Cl can be made, with 1–2 mg. Ag samples as well as on macro scale. Reagent prepn.: To 5 g. AcNHPh in 40 ml. glacial AcOH add, with cooling 3 g. of Br, dil. to 200 ml. with ice water and filter the p-Br deriv., m. 167.8°. Treat it slowly with 30–40 ml. of cold HNO_3 (d. 1.52) and stir 8 min. with cooling, then dil. to 250 ml. Dissolve 2 g. of the NO_2 deriv., m. 102–3°, in 15 ml. warm 30% EtOH, treat with 2 g. powd. Fe and add 50% AcOH slowly with warming until a reaction takes place; when this subsides, add 50 ml. of hot H_2O and ppt. the Fe with Na_2CO_3, filter and chill the filtrate to obtain the NH_2 deriv. as a ppt. which darkens in air. To the filtrate from the Fe treatment, at once add HCl and diazotize with $NaNO_2$ to obtain a ppt. of acetylbromobenzotriazole. Boil this with concd. HCl and evap. to dryness. Treat the residue with dil. NH_4OH, neutralize the ammoniacal soln. to slightly acid reaction with AcOH, to obtain the product, m. 157–8° (from C_6H_6). The detn. in acid soln. is made at an acidity below 0.3 *N* (as HNO_3). The reagent is added dropwise in 1–2% soln. in AcOH at 70–80°. The soln. is allowed to cool for 20–30 min., filtered and washed with H_2O acidified with HNO_3 or AcOH, then with EtOH and finally with Et_2O and dried at 110–20°. For detn. in ammoniacal soln. use the reagent as a 1–5% soln. in concd. NH_4OH (60 ml.), then dil. with 40 H_2O; if Cu and Cl are present, add enough 0.1 *N* HCl to ppt. the Ag present, dissolve the ppt. in excess NH_4OH, then add the reagent as above. The reagent must contain 10–15% of NH_4OH to keep it clear. G. M. Kosolapoff

TARASEVICH, N. I.

Cand Chem Sci

Dissertation: "Application of Diamines and Their Derivatives for Determination of Certain Elements."

20 April 49

Moscow Order of Lenin State V imeni

M. V. Lomonosov

SO Vecherniaya Moskva
Sum 71

USSR/Chemistry - Qualitative Analysis Mar/Apr 49

Chemistry - Orthophenylenediamine

"A New Macro-and Micromethod of Identifying Copper and Mercury," N. I. Tarasevich, Chair of Anal Chem, Moscow State U Microchem Lab, 6 pp

"Zhur Anal Khim" Vol IV, No 2

Orthophenylenediamene can be used for this purpose in a sulfuric, nitric, or hydrochloric acid medium. Alkali metals, alkali earth metals, and small quantities of Cd, Zn, Ni, and Co do not hinder the reaction which results in the formation of a

57/49T27

USSR/Chemistry - Qualitative Analysis Mar/Apr 49 (Contd)

rhombic crystal of strong color (Cu.2 phen)-(H_2I_4) with a molecular weight of 988.1k. Crystal is dissolved with difficulty in ether, and is very stable in air at normal temperatures. Complexes with other metals will be studied further. Submitted 12 Dec 47.

57/49T27

TARASEVICH, N. I.

TARASEVICH, N.I.

Determination of copper and silver by homogeneous precipitation with benzotriazole. Vest.Mosk.un.10 no.10:111-113 O '55.
(MLRA 9:4)

1.Kafedra analiticheskoy khimii.
(Precipitation (Chemistry)) (Copper) (Silver)

ALIMARIN, I.P., professor; TARASEVICH, N.I., dotsent.

Instruments and laboratory vessels for micro- and semimicro-analyses. Zav.lab. 22 no.3:368 '56. (MLRA 10:5)

1.Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
2.Chlen-korrespondent Akademii nauk SSSR (for Alimarin)
(Chemical laboratories--Apparatus and supplies)

137-58-1-2146

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 292 (USSR)

AUTHORS: Tarasevich, N. I., Zheleznova, A. A., Semenenko, K. A.

TITLE: Spectrographic Identification of Tantalum in Niobium Pentoxide (Spektrograficheskoye opredeleniye primesi tantala v pyatiokisi niobiya)

PERIODICAL: Vest. Mosk. un-ta, ser. matem., mekhan., astron., fiz., khimii, 1957, Nr 1, pp 156-158

ABSTRACT: A description is offered of a method of spectrographic identification of 0.3-1.5 percent Ta in Nb_2O_5. Standards were made by introducing Ta dissolved in a mixture of HNO_3 and HF into the Nb_2O_5. A sample (50-60 mg) was burned in an activated AC arc (220 v, 6-6.5 amp). The spectrogram was obtained by means of a KS-55 quartz spectrograph. The analytical pairs of lines were: Ta 2714, 674 - Nb 2714, 198A. The relative error in content of ~0.3 percent Ta in Nb and Nb_2O_5 was ±12 percent.

A. Sh.

1. Tantalum—Determination 2. Spectrographic analysis—Applications

Card 1/1

TARASEVICH, N.I.

Estimation of palladium with triazoles. I. N. Lomakina and N. I. Tarasevich. *Vestnik Moskov. Univ. 12, Ser. Mat., Mekh., Astron., Fiz., Khim.* No. 3, 217-22(1957).—1,2,3-Benzotriazole and 5-bromo-1,2,3-benzotriazole form with Pd(II) in HCl the coördination compds. $2C_6H_5N_3 \cdot PdCl_2$ (I), mol. wt. 415.86 g. and $2C_6H_4BrN_3 \cdot PdCl_2$ (II), mol. wt. 573.70 g. I can be pptd. from strongly acidic solns. in the form of cryst. rhombic plates or needles. II is a light-yellow amorphous ppt. I and II are very insol. in water and acids and are stable when heated up to 300°. A micromethod for Pd(II) estn. in acid medium in the form of bromobenzotriazolate was worked out. Pd can be estd. in the presence of Ni(II), Co(II), Fe(III), Pt(IV), Au(III), Rh(III), and Ir(IV). Alkalies, alk. earths, Cl^-, SO_4^{--}, NO_3^-, and AcO^- do not interfere with this estn.

V. S. Mihajlov

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4E4j

Chair Analyt. Chem., Moscow State U.

5(2) PHASE I BOOK EXPLOITATION SOV/2535

Tarasevich, Nikolay Ivanovich

Rukovodstvo k praktikumu po vesovomu analizu (Manual for Laboratory Practice and Gravimetric Analysis) [Moscow] Izd-vo Moskovskogo universiteta, 1958. 237 p. Errata slip inserted. 8,000 copies printed.

Eds.: I. P. Alimarin, Corresponding Member, USSR Academy of Sciences, and S. F. Kondrashkova; Tech. Ed.: G. I. Geogriyeva.

PURPOSE: The book is intended as a handbook for chemistry instructors and students studying gravimetric analysis.

COVERAGE: The book gives a brief introduction to the theory of gravimetric analysis. The manual describes laboratory equipment including new Soviet apparatus for gravimetric analysis, general laboratory techniques and methods for the gravimetric analysis of several elements. The author states that there is no adequate handbook on gravimetric analysis in the U.S.S.R. to satisfy the need of chemistry departments in Soviet schools of higher learning, and that, therefore, this manual is timely. The author thanks Professor I. P. Alimarin, Corresponding Member of the Academy of Sciences,

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USSR, Professor Ye. S. Przheval'skiy (Deceased), Docent Z. P. Shakhova, Docent P. K. Agasyan, and M. N. Suzdal'tseva of the Department of Analytical Chemistry of the Moscow State University. There are 20 references, all Soviet.

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Manual for Laboratory Practice (Cont.) SOV/2535

AVAILABLE: Library of Congress

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TM/mg
10-30-59

AUTHORS: Tarasevich,N.I.,and Khlystova,A.D. SOV/55-58-1-29/33

TITLE: On the Influence of Additions of Certain Stuffs on the Intensity of Spectral Lines of Niobium and Tantalum (O vliyanii dobavok nekotorykh veshchestv na intensivnost' spektral'nykh liniy niobiya i tantala)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya fiziko-matematicheskikh i yestestvennykh nauk, 1958, Nr 1, pp 215-222 (USSR)

ABSTRACT: In the carbon arc of direct current and alternating current there happens an intensification of the arc lines Ta 2653.27 and Ta 2714.67 as soon as salts of alkali metals are adjoined. For an addition of silicic acid the intensity of the lines Nb 2950.878 and Ta 2685.11 increases; thereby a spectral determination of niobium (up to 0.001%) and tantalum (up to 0.003 %) is possible. There are 14 references, 10 of which are Soviet, 3 American,and 1 German.

ASSOCIATION: Kafedra analiticheskoy khimii (Chair of Analytic Chemistry)

SUBMITTED: April 20, 1957

Card 1/1

SOV/156-58-4-22/49

AUTHORS: Tarasevich, N. I., Semenenko, K. A., Semenenko, K. N.

TITLE: The Radiographic Investigation of the Products of Chemical Reactions in Spectroscopic Determinations of Niobium (Rentgenograficheskoye izucheniye produktov khimicheskikh reaktsiy pri spektral'nom opredelenii niobiya)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 4, pp 700-705 (USSR)

ABSTRACT: In the present paper the products formed on the carbon electrode in the spectrum analysis of niobium determination were radiographically investigated. The following samples were investigated: I. Nb+C; II. Si+C; III. Nb+Si+C; IV. Nb_2O_5+C; V. Nb_2O_5+Si+C; VI. Nb_2O_5+SiO_2+C. The radiograms of the products were taken. The radiographic investigation shows that in the interaction of metallic niobium with carbon only niobium carbide is formed. In the interaction between silicon and carbon SiC is formed. The interaction between carbon and a mixture of Nb and Si takes a complex way, however. The radiographic analysis shows that in the reaction products the

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following phases are formed: cubic NbC and tetragonal β-Nb_5Si_3. The interaction of Nb_2O_5 with the carbon electrode shows only a modification of Nb_2O_5 with small impurities of NbO_2. Lower niobium oxides were not determined. In the interaction between niobium pentoxide Nb_2O_5 and elementary silicon with carbon NbO_2 and a phase difficultly identified are formed. The interaction between niobium pentoxide Nb_2O_5 and silicon dioxide with carbon leads to the formation of NbO_2 and niobium pentoxide. In the presence of elementary silicon and SiO_2 niobium dioxide is formed on the carbon crater during the spectroscopic determination of niobium. The excitation source and excitation conditions as well as the amperage do practically not exert any influence upon the composition of niobium phases in the carbon crater. There are 1 figure, 4 tables, and 6 references, 4 of which are Soviet.

SOV/156-58-4-22/49

The Radiographic Investigation of the Products of Chemical Reactions in Spectroscopic Determinations of Niobium

ASSOCIATION: Kafedra analiticheskoy khimii Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Chair of Analytical Chemistry at the Moscow State University imeni M. V. Lomonosov)

SUBMITTED: April 15, 1958

Card 3/3

5 (2)
AUTHORS: Lomakina, L. N., Tarasevich, N. I. SOV/55-58-6-19/31

TITLE: Investigation of the Analytical Properties of 2-Mercaptobenzimidazol (Izucheniye analiticheskikh svoystv 2-merkaptobenzimidazola). The Microdetermination of Platinum, Palladium, Rhodium, and Iridium by 2-Mercapto-benzimidazol (Mikroopredeleniye platiny, palladiya, rodiya i iridiya 2-merkaptobenzimidazolom)

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 6, pp 149-154 (USSR)

ABSTRACT: In this paper an investigation of the compounds of platinum (IV), palladium (II), rhodium (III), iridium (IV) with the reagent mentioned in the title, as well as an investigation of the possibility of a quantitative determination of these metals by means of the reagent investigated is carried out. A scheme for the synthesis of the reagent is given, and figure 1 shows the shape of the crystals formed by it. It is difficultly soluble in H_2O and in acids. Qualitative investigations of its reactivity showed that it reacts with

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several elements in an acid medium, with some also in ammonia, and with the elements of the platinum group in acetic acid (pH = 3.27-7), and in the presence of mineral acids. An amorphous precipitation is formed, which forms the crystals shown by figure 2 by recrystallization (with Pd). The comparative characteristics of the compounds obtained are given by table 1. Reactivity with the reagent decreases from platinum -Pd - Rh to iridium. Further, investigations were carried out of the dependence of the compounds of the four metals with 2-mercaptobenzimidazol upon the hydrogen concentration of the precipitation solution. The data of the analysis are given by table 2. It was shown by the investigations carried out that the four metals form two different compounds with the reagent (within the range of pH-values of 4-7); in this case hydrogen of the sulphhydril group is probably replaced by the metal, and on the other hand, the said metals react with the reagent in a similar manner as with the amines in which they form compounds of the type $m(amine) \cdot MeCl_n$ in a highly acid

Investigation of the Analytical Properties of 2-Mercaptobenzimidazol. The Microdetermination of Platinum, Palladium, Rhodium, and Iridium by 2-Mercaptobenzimidazol SOV/55-58-6-19/31

medium and in the presence of free mineral acids. According to the properties of the compounds obtained, the authors succeeded in working out 2 gravimetric methods of determination of elements of the platinum group: 1) From an acetate buffer mixture containing no other ions and the reagent and a 0.5% caustic soda solution, and heating up to 70-80° (Table 3), and 2) from a mineral acid (1-5% per unit of volume), the reagent, and a 0.5% caustic soda solution, and heating up to 60-70° (Table 4). The error committed in these methods did not exceed ±0.05 mg of 0.2-2 mg of the metal to be determined. There are 2 figures, 4 tables, and 5 references, 4 of which are Soviet.

ASSOCIATION: Kafedra analiticheskoy khimii (Chair for Analytical Chemistry)

SUBMITTED: January 2, 1958

Card 3/3

SOV/94-58-8-8/22

AUTHORS: Tarasevich, N. I., Ioffe, M. M., Popov, S.M., Veklich, M. I., Dranzal', A. V., Dikovskiy, A.A., Merkulov, V. G. and Arno, B. E.

TITLE: Increasing the Output of Hood-type Electric Furnaces with Economy of Electric Power (Ekonomiya elektroenergii i uvelicheniye proizvoditel'nosti kolpakovykh elektropechey)

PERIODICAL: Promyshlennaya Energetika, 1958, Nr 8, pp 20-21 (USSR)

ABSTRACT: This suggestion was awarded third prize in an All-Union Power Economy Competition. In the manufacture of transformer steel high temperature annealing is carried out under vacuum at a temperature of 1180°C. This operation is carried out in special vacuum hood-type electric furnaces. The sheet steel in the furnace is protected by muffles which in their turn are covered by the hood which contains electric heaters and water-cooled vacuum seal. The annealing period includes a cooling time which reduces the output of the furnace and increases the power output because the heat in the hood is wasted. The furnaces were reconstructed in such a way that when the heating period is over the hot hood is quickly

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Increasing the Output of Hood-type Electric Furnaces with Economy of Electric Power

replaced by a cold one and transferred to the next furnace that requires heating. Inert gas is used to protect the sheet steel during the short period in which the vacuum is broken. Cooling is now more rapid than before and less power is used.

Card 2/2

AUTHORS: Lomakina, L.N., Tarasevich, N.I., Arasyan, P.A. 22-3-6/12

TITLE: The Microgotentiometric Determination of Silver by Means of Triazoles (Mikropotentsiometricheskoye opredeleniye serebra s pomoshch'yu triazolov)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 3, pp. 270-272 (USSR)

ABSTRACT: The present paper describes a method applying benzotriazole and bromobenzotriazole for the determination of microquantities of silver; the second-named reagent was found to be the better. For potentiometric titration a microelectrode recommended by Frid (Reference 3) in a slightly modified form was used. It was found that the potential jumps in the neutral medium are greater than in the acid medium, and that better titration results are obtained with nitric acid than with sulphuric- or acetic acid. By means of bromobenzotriazole it is possible to determine quantities of 0,01 mg/ml silver. The presence of copper, lead, nickel, cobalt, thallium and zinc does not disturb the determination in the midium of nitric acid, or in the presence of trilon B, whereas iodide-, cyanice-, and thiosulfate ions exercise a distrubing effect. In weakly ammoniacal solutions silver can be determined also in the presence of chlorine ions. There are several tables showing results obtained by investigation and some titration curves. There are 2 figures, 4 tables, and 5 references, 4 of which are Slavic.

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The Microrotentiometric Determination of Silver by Means of Triazoles 32-3-6/32

ASSOCIATION: Moscow State University imeni M.V.Lomonosov (Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova)

AVAILABLE: Library of Congress

1. Silver-Micropotentiometric determination 2. Benzotriazole-Applications 3. Bromobenzotriazole-Applications

TARASEVICH, N.I.; KOZYUKOVA, G.V.

Spectral determination of admixtures of titanium and tantalum in niobium pentoxide and admixtures of titanium and niobium in tantalum pentoxide. Vest.Mosk.un.Ser.mat., astron., fiz., khim. 14 no.3:185-188 '59. (MIRA 13:5)

1. Kafedra analiticheskoy khimii Moskovskogo gosudarstvennogo universiteta.
(Titanium--Spectra) (Niobium--Spectra)
(Tantalum--Spectra)

5 (2)

AUTHORS: Tarasevich, N. I., Khlystova, A. D., Pak, Ye. A.

SOV/32-25-8-18/44

TITLE: Determination of Tungsten in Molybdenum With a Method of Chemical-spectrum Analysis

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 8, pp 955 - 956 (USSR)

ABSTRACT: A method of chemical-spectrum analysis was developed for the determination of small quantities of tungsten (I) (approximately 10^{-3}%) in molybdenum (II). To increase the sensitivity of the spectrum determination they investigated chemical enrichment using inorganic co-precipitating agents; the following were used: silicic acid, metastannic acid, zirconium phosphate, and ammonium phosphomolybdate (III). (III) proved to be the most suitable for the enrichment of (I) at which a 90% co-precipitation occurred. This fact was determined by radiometric measurements at different (I)-concentrations by means of radioactive sodium tungstate (W^{185}). The article contains a method for purifying (I) for the preparation of spectrally pure standard samples. The spectra were photographed with a KS-55 spectro-

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Determination of Tungsten in Molybdenum With a Method of Chemical-spectrum Analysis

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graph, photographic films of type 2 (sensitivity 16 units of GOST) for the range 2900 Å and type 1 (sensitivity 0.7 units of GOST) for the range 4000 Å were used. The results of analyses of several samples and artificial mixtures according to the described method are given (Table). There are 1 figure and 1 table.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

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S/189/60/[illegible]/005/006/006
B110/B007

AUTHORS: Tarasevich, N. I., Khlystova, A. D.

TITLE: Coprecipitation of tungsten with ammonium phosphomolybdate

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 2, Khimiya, no. 5, 1960, 76-77

TEXT: Hitherto only the colorimetric method applying thiocyanate salts has been used to determine tungsten in the presence of molybdenum. As this latter from hydroxide separates tungsten not quantitatively, but only to 70-79%. Therefore, the authors suggested the methods of the chemical spectral analysis with partial precipitation of ammonium phosphomolybdate as carrier (collector). Radiometric measurements with radioactive sodium tungstate (W^{185}) were made to check the complete coprecipitation at different ratios W:Mo in the solution. 1.5 g pure MoO_3 was dissolved in 10 ml NH_3 (1:2) and poured into a mixture of 20 ml of concentrated HCl and 20 ml water. After the calculated amount of tungsten had been added, precipitation was carried out at room temperature with 2.5 ml 0.2% $(NH_4)_2HPO_4$. The precipitate

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redissolved in NH_3 was radiometrically measured (Table). The [illegible] tion of W was [illegible] 90-92% plus the amount of tungsten adsorbed by the filter paper. By the enrichment method suggested and the spectroscopic method developed by the authors, it is possible to determine tungsten in molybdenum and its compounds in the range of concentration of $6 \cdot 10^{-4}$: $2 \cdot 10^{-2}$% (referred to molybdenum). The direct spectroscopic method is the best way of determining tungsten concentrations of $2 \cdot 10^{-2}$ % (Ref. 2: M. I. [illegible], A. D. Khlystova, Ye. A. Pak: Zavod. lab., 25, 955, 1959). Professor A. K. Nesmeyanov and Professor A. N. Sklikman are mentioned. (This is an almost complete translation of the original). There are 1 table and 3 [illegible] references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova, Kafedra analiticheskoy khimii (Moscow State University imeni M. V. Lomonosov Department of Analytical Chemistry)

SUBMITTED: December 25, 1959

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S/189/60/000/005/005/006
B110/B207

Coprecipitation of ...

Legend to the Table: 1) ratio W:Mo in the solution, 2) activity, impulses/min., 3) initial-; 4) after precipitation; 5) filtrate; 6) precipitate, 7) % referred to initial-.

1 Соотношение W:Mo в растворе	2 Активность, имп/мин.			7 % к исходному	
	3 исходная	4 после осаждения			
		5 фильтрат	6 осадок	5 фильтрат	6 осадок
1:10 000	8325	101	8075	1,2	97,0
1:10 000	8825	556	8100	6,3	91,8
1:10 000	9000	530	8250	6,0	91,7
1:20 000	6625	232	6150	3,5	92,8
1:20 000	6650	525	5675	9,4	85,3
1:20 000	6650	434	6075	6,7	91,3
1:100 000	3405	252	2970	7,4	87,2
1:100 000	3900	269	3435	6,9	88,1
1:100 000	3360	218	3060	6,5	91,1

Card 3/3

LOMAKINA, L.N., TARASEVICH, N.I.

Spectrophotometric investigation of the conditions for preparing a rhodium complexonate. Vest. Mosk. un. Ser. 2: khim. 15 no.2: 58-63 Mr-Ap '60. (MIRA 13:6)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.
(Rhodium compounds)

TARASEVICH, N.I., SEMENENKO, K.A., MELIKHINA, N.F.

Spectral determination of niobium and tantalum impurities in titanium. Vest. Mosk. un. Ser. 2: khim. 15 no.2:64-68 Mr-Ap '60. (MIRA 13:6)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.
(Niobium--Spectra) (Tantalum--Spectra) (Titanium--Analysis)

S/032/62/028/002/014/037
B107/B101

AUTHORS: Gusarskiy, V. V., and Tarasevich, N. I.

TITLE: Spectroscopic sodium determination in aluminum alloys

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 2, 1962, 183 - 184

TEXT: A method was elaborated for determining small amounts of sodium (10^{-4}%) in aluminum alloys by two variants: (1) Dissolution of the sample in 1:1 HCl, decantation of copper, spectrum analysis with a glass fulgurator; (2) direct determination in metal. For calibrating the first variant, АЛ-19 (AL-19) aluminum was dissolved in a quartz vessel, and certain amounts of NaCl were added to the solution. An ИСП-51 (ISP-51) spectrograph was used for the spectrum analysis, an a-c arc of 1.5 - 2 a for excitation; burning time 1 min, exposure time 40 sec; four pictures are taken without switching off the arc while the plate holder is quickly moved on. The line Na I 5889.92 Å is photometrically measured, as well as the background on the shortwave side of the line. The calibration curve is plotted in the coordinates ΔS, log C. Experiments showed that the error of this method was below 10% between 0.0005 and 0.005% Na.

S/032/62/028/002/014/037
B107/B101

Spectroscopic sodium determination...

Special test conditions guaranteed that the sodium content of the air did not noticeably affect the test results. For the second variant the following alloys were used: В-95 (V-95) with 0.00032% Na, АЛ-5 (AL-5) with 0.00052% Na, and АМГ-6 (AMG-6) with 0.00126% Na. (Data of the sodium content are mean values of four determinations). The following differences of analysis exist from the first variant: arc current 2.4 a, burning time 30 sec, exposure time 7 sec. The calibration curve is plotted in the coordinates ΔS, C; it is a straight line passing through the origin; therefore, one calibration sample is sufficient. An effect of the other alloy components on the sodium determination was not observed. The mean relative deviation does not exceed 3%. A 15-fold recording of the said calibration samples showed that sodium was evenly distributed in these alloys. There are 2 tables and 1 Soviet reference.

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S/189/60/000/003/008/013/XX
B003/B067

AUTHORS: Tarasevich, N. I., Semenenko, K. A., Semenenko, K. N

TITLE: X-Ray Photographic Method of Determining the Products of Chemical Reactions in the Spectral Determination of Tantalum

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 2, khimiya, 1960, No. 3, pp. 37-39

TEXT: The authors studied the reaction products which were formed from tantalum pentoxide in the electric arc in the crater of the carbon electrode (Ta_2O_5). The investigation method applied is described in an earlier paper. (Ref. 1). The very finely powdered Ta_2O_5 was filled into the electrode crater and closed with a cover of coal (provided with an opening for the gases). In all experiments the reaction conditions in the arc were the same. The X-ray powder patterns of the reaction products were taken with РКД (RKD) cameras. A БСВ (BSV) tube served as radiation source (copper electrode). The product formed from Ta_2O_5 (under the

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X-Ray Photographic Method of Determining the Products of Chemical Reactions in the Spectral Determination of Tantalum

S/189/60/000/003/008/013/XX
B003/B067

action of electrode carbon) mainly consists of TaO_2 (tetragonal phase; parameter: a = 4.73±0.01 A, c = 3.05±0.01 A). Furthermore it contains nonreacted Ta_2O_5 in two modifications (α -modification with tetragonal lattice, a = 3.80 A, c = 35.60 A, as well as a modification observed for the first time by Yu. P. Simanov (Ref. 4) and a Ta - C - O triple phase. No data can be given concerning the presence of TaO since its reflections were superimposed by reflections of oxides of higher valence. An addition of SiO_2 to Ta_2O_5 hardly influences the reduction in the arc. The presence of Si in the reaction mixture promotes the reduction of Ta_2O_5 (the reaction product consists of TaO, Ta-C-Si-, Ta-C-O-, Ta-Si-O triple phases as well as of TaC and SiC). In a table the experimentally determined values of X-ray analysis are compared with the published values. There are 1 table and 5 references: 4 Soviet and 1 Danish.

ASSOCIATION: Moskovskiy universitet, Kafedra analiticheskoy khimii (Moscow University, Chair of Analytical Chemistry)

Card 2/3

SEMENENKO, K.A.; TARASEVICH, N.I.

Effect of phosphomolybdate on the spectral determination of niobium and tantalum. Zhur. anal. khim. 18 no.1:88-92 Ja '63. (MIRA 16:4)

1. M.V. Lomonosov Moscow State University.
(Niobium—Spectra) (Tantalum—Spectra)
(Phosphomolybdates)